

Title (en)

SENSOR ELEMENT, MEASURING DEVICE, METHOD FOR MANUFACTURING SENSOR ELEMENT, ELECTRONIC CIRCUIT ELEMENT, AND QUANTUM INFORMATION ELEMENT

Title (de)

SENSORELEMENT, MESSVORRICHTUNG, VERFAHREN ZUR HERSTELLUNG DES SENSORELEMENTS, ELEMENT EINER ELEKTRONISCHEN SCHALTUNG UND QUANTENINFORMATIONSELEMENT

Title (fr)

ÉLÉMENT DE CAPTEUR, DISPOSITIF DE MESURE, PROCÉDÉ DE FABRICATION D'ÉLÉMENT DE CAPTEUR, ÉLÉMENT DE CIRCUIT ÉLECTRONIQUE ET ÉLÉMENT D'INFORMATIONS QUANTIQUES

Publication

EP 3761049 A4 20210428 (EN)

Application

EP 19760350 A 20190228

Priority

- JP 2018037624 A 20180302
- JP 2019007808 W 20190228

Abstract (en)

[origin: EP3761049A1] The present invention provides a sensor element including a diamond in which nitrogen-vacancy centers in a diamond crystal structure stabilize in a negative charge state. By ensuring that the diamond of the sensor element is n-type phosphorus-doped and contains nitrogen-vacancy centers in the crystal structure, the probability that nitrogen-vacancy centers in the diamond lattice are in a neutral state decreases, and the nitrogen-vacancy centers stabilize in a negative charge state.

IPC 8 full level

G01R 33/02 (2006.01); **C01B 32/28** (2017.01); **C30B 29/04** (2006.01); **G01N 24/00** (2006.01); **G01R 33/032** (2006.01); **G01R 33/60** (2006.01); **H01L 29/82** (2006.01)

CPC (source: EP US)

C01B 32/26 (2017.07 - EP US); **C01B 32/28** (2017.07 - EP US); **C23C 16/27** (2013.01 - US); **C30B 25/02** (2013.01 - US); **C30B 29/04** (2013.01 - EP US); **G01R 33/032** (2013.01 - EP); **G01R 33/26** (2013.01 - EP US); **G01R 33/60** (2013.01 - EP); **H01L 21/02527** (2013.01 - US); **H01L 21/02576** (2013.01 - US); **H01L 21/0262** (2013.01 - US); **H01L 29/1602** (2013.01 - US); **H01L 29/167** (2013.01 - US); **H01L 29/82** (2013.01 - EP); **H10N 60/85** (2023.02 - US); **C01P 2002/52** (2013.01 - US); **C01P 2006/40** (2013.01 - US); **C01P 2006/42** (2013.01 - US); **C01P 2006/90** (2013.01 - EP)

Citation (search report)

- [XYI] US 2014037932 A1 20140206 - TWITCHEN DANIEL JAMES [US], et al
- [Y] US 2016334474 A1 20161117 - HATANO MUTSUOKO [JP], et al
- See references of WO 2019168097A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3761049 A1 20210106; **EP 3761049 A4 20210428**; **EP 3761049 B1 20230215**; CN 111771132 A 20201013; JP 2019152524 A 20190912; JP 6795803 B2 20201202; US 11335779 B2 20220517; US 2020411646 A1 20201231; WO 2019168097 A1 20190906

DOCDB simple family (application)

EP 19760350 A 20190228; CN 201980015033 A 20190228; JP 2018037624 A 20180302; JP 2019007808 W 20190228; US 201916977342 A 20190228